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This index covers all items — papers, correspondence, reviews, etc. — that appeared in this periodical during 1993, and items from previous years that were commented upon or corrected in 1993.

The Author Index contains the primary entry for each item, listed under the first author's name, and cross-references from all coauthors. The Subject Index contains several entries for each item under appropriate subject headings, and subject cross-references.

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Piecewise-polynomial approximation
frequency domain analysis of translations with piecewise cubic trajectories. *Cortelazzo, G., + , T-PAMI Apr 93* 411-416
Planning; cf. Manipulators, motion planning; Mobile robots, motion planning
Point processes
threshold validity based on theorem of Poisson point processes for mutual neighborhood clustering algorithms. *Smith, Stephen P., T-PAMI Jan 93* 89-92
Poisson processes
threshold validity based on theorem of Poisson point processes for mutual neighborhood clustering algorithms. *Smith, Stephen P., T-PAMI Jan 93* 89-92
Polynomial approximation; cf. Piecewise-polynomial approximation; Spline functions
Pose determination; cf. Mobile robots, motion planning; Position measurement
Position measurement
abstraction-based approach to 3-D pose determination from range images. *Quek, Francis, + , T-PAMI Jul 93* 722-736
CEGI (complex extended Gaussian image) representation for 3-D pose determination. *Kang, Sing Bing, + , T-PAMI Jul 93* 707-721
determining axis of surface of revolution using tactile sensing. *Berkemeier, Matthew D., + , T-PAMI Oct 93* 1079-1087
limitations of inverse filtering solutions; application of matrix-based approach to depth-from-focus problem. *Ens, John, + , T-PAMI Feb 93* 97-108
stereo matching method using multiple stereo pairs with various baselines to obtain precise distance estimates. *Okutomi, Masatoshi, + , T-PAMI Apr 93* 353-363
using computer graphics to estimate position of autonomous mobile robot. *Talluri, Raj, + , T-PAMI Jun 93* 597-601
Position measurement; cf. Mobile robots, motion planning; Optical position measurement
Prediction methods
sequential monitoring of adaptive probabilistic prediction made by Bayesian-network-based expert systems. *Cowell, Robert G., + , T-PAMI Mar 93* 209-219
Privacy; cf. Cryptography
Probability
approximate nonmyopic method for computing value of information using statistical properties of large samples. *Heckerman, David, + , T-PAMI Mar 93* 292-298
causal probabilistic networks with both discrete and continuous variables. *Olesen, Kristian G., T-PAMI Mar 93* 275-279
FRAIL3, language for constructing belief networks. *Goldman, Robert P., + , T-PAMI Mar 93* 196-208
mechanism for performing probabilistic reasoning in influence diagrams using interval probabilities. *Fertig, K. W., + , T-PAMI Mar 93* 280-286
nonmonotonic reasoning based on principles of infinitesmal probabilities and maximum entropy. *Goldszmidt, Moisés, + , T-PAMI Mar 93* 220-232
probabilistic analysis of intercausal reasoning accounting for and differentiating between predictive and diagnostic patterns of reasoning. *Wellman, Michael P., + , T-PAMI Mar 93* 287-292
probabilistic reasoning (special section). *T-PAMI Mar 93* 193-307
structural and probabilistic knowledge for abductive reasoning; entropy-minimization-based algorithm for learning qualitattive relationships. *Bhatnagar, Raj, + , T-PAMI Mar 93* 233-245
Probability; cf. Bayes procedures; Reliability estimation
Proteins; cf. Biological materials
Publishing; cf. Journals

Q

Quadtrees/octrees
identifying symmetry of 3-D object represented by octree data structure. *Minovic, Predrag, + , T-PAMI May 93* 507-514
Quantization; cf. Vector quantization

R

Radar; cf. Laser radar
Ranging; cf. Laser radar; Mobile robots, motion planning; Optical position measurement; Position measurement
Reasoning; cf. Artificial intelligence; Cognitive science
Relaxation methods; cf. Simulated annealing
Reliability estimation
probabilistic reliability analysis of linear functional points on surfaces reconstructed using regularization. *Keren, Daniel, + , T-PAMI Oct 93* 982-995
Robots, tactile systems; cf. Manipulators, dexterous
Robots, vision systems
advantages of polar and log-polar mapping for direct estimation of time-to-impact from optical flow. *Tistarelli, Massimo, + , T-PAMI Apr 93* 401-410
image/map correspondence for autonomous mobile robot self-location using computer graphics. *Talluri, Raj, + , T-PAMI Jun 93* 597-601
representational and computational model for deriving 3-D articulated volumetric descriptions of objects from laser range finder data. *Ferrie, Frank P., + , T-PAMI Aug 93* 771-784

S

Scene analysis; cf. Image analysis; Image edge analysis
Search methods
fast nearest-neighbor search in dissimilarity spaces. *Faragó, András, + , T-PAMI Sep 93* 957-962
Sensors; cf. Transducers
Sequences
dynamic programming alignment of sequences representing cyclic patterns; application to DNA and circularly permuted protein sequences. *Gregor, Jens, + , T-PAMI Feb 93* 129-135
maximizing dependence between queries in different attributes of database; application to matching protein sequences. *Guigó, Roderic, + , T-PAMI Oct 93* 1030-1041

Shape measurement; cf. Image shape analysis
Signal...; cf. Image...
Signal analysis; cf. Wavelet transforms
Signal processing; cf. Adaptive signal processing; Filters; Image processing
Signal representations; cf. Image representations; Wavelet transforms
Signal resolution; cf. Image resolution
Signal sampling/reconstruction; cf. Image reconstruction
Signature verification; cf. Handwriting recognition
Simulated annealing
class of Boltzmann machines for resolving satisfiability problem in propositional calculus setting. *d'Anjou, A.*, + , *T-PAMI May 93* 514-521
combinatorial optimization approach to figure–ground discrimination. *Hérault, Laurent*, + , *T-PAMI Sep 93* 899-914
deterministic annealing approach to constrained clustering. *Rose, Kenneth*, + , *T-PAMI Aug 93* 785-794
Simulation
improved filtering for QSIM qualitative simulation algorithm used in qualitative reasoning. *Say, A. C. Cem*, + , *T-PAMI Sep 93* 967-971
Smoothing methods
image representation using block pattern models; image processing applications. *Wang, Yao*, + , *T-PAMI Apr 93* 321-336
local smoothing filter for curves or surfaces combining advantages of Gaussian smoothing and Fourier curve description without shrinkage. *Oliensis, J.*, *T-PAMI Mar 93* 307-312
partial smoothing splines for estimating 2-D boundary functions from sampled data with noise and corners. *Chen, Mei-Hsing*, + , *T-PAMI Nov 93* 1208-1216
Smoothing methods; cf. Median filters
Software; cf. Computer languages
Software performance
sequential monitoring of adaptive probabilistic prediction made by Bayesian-network-based expert systems. *Cowell, Robert G.*, + , *T-PAMI Mar 93* 209-219
Solid modeling; cf. Geometric modeling
Source coding; cf. Cryptography; Image coding
Source location; cf. Position measurement
Special issues/sections
3-D modeling in image analysis and synthesis (special section). *T-PAMI Jun 93* 529-616
probabilistic reasoning (special section). *T-PAMI Mar 93* 193-307
Speech analysis; cf. Speech recognition
Speech recognition
isolated word recognition by neural network models with cross-correlation coefficients for speech dynamics. *Wu, Jianxiong*, + , *T-PAMI Nov 93* 1174-1185
Spline functions
B-spline contour representation and symmetry detection. *Saint-Marc, Philippe*, + , *T-PAMI Nov 93* 1191-1197
L_1 polynomial spline pyramid for multiresolution representation of signals. *Unser, Michael*, + , *T-PAMI Apr 93* 364-379
partial smoothing splines for estimating 2-D boundary functions from sampled data with noise and corners. *Chen, Mei-Hsing*, + , *T-PAMI Nov 93* 1208-1216
State estimation; cf. Kalman filtering
Statistics
approximate nonmyopic method for computing value of information using statistical properties of large samples. *Heckerman, David*, + , *T-PAMI Mar 93* 292-298
Statistics; cf. Image motion analysis; Probability
Stereo vision
3-D translational motion and structure from binocular image flows. *Li, Lingxiao*, + , *T-PAMI Jul 93* 657-667
Fourier-transform-based technique for recovering camera orientation with respect to calibration object in binocular stereo system. *Bani-Hashemi, Ali*, *T-PAMI Nov 93* 1197-1202
integrating disparity, vergence, focus, aperture, and calibration for surface estimation in active stereo. *Ahuja, Narendra*, + , *T-PAMI Oct 93* 1007-1029
local surface shape estimation of 3-D textured surfaces using Gaussian Markov random fields and stereo windows. *Patel, Maqbool A. S.*, + , *T-PAMI Oct 93* 1091-1098
range sensing by projecting multiple slits with random cuts. *Maruyama, Minoru*, + , *T-PAMI Jun 93* 647-651
robustness of phase-based techniques for measuring image velocity and binocular disparity. *Fleet, David J.*, + , *T-PAMI Dec 93* 1253-1268
stereo matching method using multiple stereo pairs with various baselines to obtain precise distance estimates. *Okutomi, Masatoshi*, + , *T-PAMI Apr 93* 353-363
trinocular active range-sensing. *Blake, A.*, + , *T-PAMI May 93* 477-483
Stereo vision; cf. Object recognition
Stochastic automata
breaking substitution ciphers using stochastic cipher learning automata. *Oommen, B. J.*, + , *T-PAMI Feb 93* 185-192
Stochastic fields
Bayesian image restoration applied to edge-preserving surface recovery. *Qian, W.*, + , *T-PAMI Jul 93* 748-752
Stochastic fields; cf. Image shape analysis
Stochastic processes
probably approximately correct learning with generalized samples; application to stochastic geometry. *Kulkarni, Sanjeev R.*, + , *T-PAMI Sep 93* 933-942
Stochastic processes; cf. Gaussian processes; Markov processes; Point processes; Poisson processes
Surface reconstruction; cf. Image reconstruction
Surface recovery; cf. Image reconstruction
Surfaces
edge detection and surface reconstruction using refined regularization. *Göksmen, Muhittin*, + , *T-PAMI May 93* 492-499
shape from shading with linear triangular element surface model. *Lee, Kyoung Mu*, + , *T-PAMI Aug 93* 815-822
technique for perception of 3-D surfaces from 2-D contours; application to zero-Gaussian-curvature surfaces. *Ulupinar, Fatih*, + , *T-PAMI Jan 93* 3-18

T

Target recognition; cf. Inverse problems; Pattern recognition
Technical journals; cf. Journals
Terrain mapping
directional mathematical morphology and reformalized Hough transformation for analysis of topographic maps. *Yamada, Hiromitsu*, + , *T-PAMI Apr 93* 380-387
Text processing; cf. Document handling
Text recognition
hybrid contextual text recognition with string matching. *Sinha, R. M. K.*, + , *T-PAMI Sep 93* 915-925
syntactic segmentation and labeling of digitized pages from technical journals. *Krishnamoorthy, Mukkai*, + , *T-PAMI Jul 93* 737-747
Three-dimensional vision; cf. Stereo vision
Topography; cf. Terrain mapping
Tracking
tracking deformable objects in plane using active contour model. *Leymarie, Frédéric*, + , *T-PAMI Jun 93* 617-634
Tracking; cf. Image motion analysis
Transducers
learning by subsequential transducers for pattern recognition intepretation tasks. *Oncina, José*, + , *T-PAMI May 93* 448-458
Transform coding; cf. Image coding
Transforms
comparing images using Hausdorff distance transform. *Huttenlocher, Daniel P.*, + , *T-PAMI Sep 93* 850-863
finite Radon transforms for image representation and compression. *Matúš, František*, + , *T-PAMI Oct 93* 996-1006
Transforms; cf. Fourier transforms; Hough transforms; Wavelet transforms

V

Vector quantization
vector quantization technique for nonparametric classifier design. *Xie, Qiaobing*, + , *T-PAMI Dec 93* 1326-1330
Vehicles; cf. Land vehicles
Videophone systems; cf. Image communication
Vision systems (nonbiological); cf. Image...; Machine vision; Robots, vision systems
Visual system
high-confidence visual recognition of persons by testing statistical independence. *Daugman, John G.*, *T-PAMI Nov 93* 1148-1161
Viterbi estimation
hybrid contextual text recognition with string matching. *Sinha, R. M. K.*, + , *T-PAMI Sep 93* 915-925

W

Wavelet transforms
high-confidence visual recognition of persons by testing statistical independence. *Daugman, John G.*, *T-PAMI Nov 93* 1148-1161
L_1 polynomial spline pyramid for multiresolution representation of signals. *Unser, Michael*, + , *T-PAMI Apr 93* 364-379
texture classification by wavelet packet signatures on two-layer network classifier. *Laine, Andrew*, + , *T-PAMI Nov 93* 1186-1191
Word recognition; cf. Speech recognition; Text recognition

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